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**Rivera**

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(54) **GRAVITY-ACTUATED SUBMARINE  
ANTENNA**

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985; 333/236, 242; H01Q 1/34, 1/04

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(57) **ABSTRACT**

An antenna including a feed tube with radial fins and circular plates at the ends of the tube and fins thereby forming a boundary for a plurality of resonant cavities. Curved plates, connected to the tube by switches of a switching system, partially encompass and subtend to the length of the tube. Interior to the tube, a transmission line from an end plate terminus conducts radio-frequency energy from the terminus to a hub and onto a switch of the switching system in which the switch is mechanically reactive to and actuated by a righting action of the curved plates when the curved plates encounter a sea state. When actuated, energy from the switch distributes to a proximate resonant cavity and curved plate to form a radiation pattern based on the difference in phase of the resonant cavity and curved plate.

**12 Claims, 8 Drawing Sheets**

